



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,556	09/08/2003	Martin J. Nilsen	14256-70	3299

7590 05/04/2004

PAUL F. DONOVAN
ILLINOIS TOOL WORKS INC.
3600 WEST LAKE AVENUE
GLENVIEW, IL 60025

EXAMINER

SCHIFFMAN, JORI

ART UNIT	PAPER NUMBER
----------	--------------

3677

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/657,556	Applicant(s) NILSEN ET AL.	
	Examiner Jori R. Schiffman	Art Unit 3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10022003</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by McGuigan (US 1208997).

Regarding claim 1, McGuigan discloses an anti-cross threading nut A comprising a nut body having first and second open ends at opposite sides thereof and a passage extending between said first and second open ends, and a plurality of threads 2 extending over a predetermined axial extent of said passage to define a threaded region, a remaining portion of said passage being unthreaded up to said first end to define an unthreaded counterbore, said first end to define an inlet opening 1 into said unthreaded counterbore for receiving a correspondingly threaded shank member C, said inlet opening including cross threading engagement preventing means for preventing cross threading engagement of said shank member with said inlet opening when said shank member is positioned in said inlet opening at an off-angle greater than an acceptable misalignment angle, and tactile feedback providing means 1a capable of causing one of said nut body and said shank member to vibrate when said nut body and said shank member are caused to be

connected by use of a power tool when said shank member is positioned in said inlet opening at said off-angle.

As to claim 2, McGuigan discloses the unthreaded counterbore having a depth and diameter that prevent the threads of the nut from engaging matching threads of the shank member when the shank member is positioned in the inlet opening.

Referring to claim 3, McGuigan discloses the tactile feedback providing means being capable of causing one of said nut body and said shank member to vibrate with progressively larger vibrations when said nut body is connected to said shank member by a power tool when said shank member is positioned into said inlet opening at progressively larger said off-angles.

In regards to claim 4, McGuigan discloses the tactile feedback providing means being capable of causing said nut body to vibrate when said nut body is driven by a power tool over said shank member.

Regarding claim 5, McGuigan discloses an anti-cross threading nut A comprising a nut body having first and second open ends at opposite sides thereof and a passage extending between said first and second open ends, and a plurality of threads 2 extending over a predetermined axial extent of said passage to define a threaded region, a remaining portion of said passage being unthreaded up to said first end to define an unthreaded counterbore, wherein said first end defines an inlet opening into said unthreaded counterbore for receiving a correspondingly threaded shank member C, said inlet opening including alternating peaks 1a and valleys (the bottom part of the peak on collar 1), and

Art Unit: 3677

both said peaks or said valleys are radiused and define a lead in radius to prevent cross threading engagement of said shank member with said inlet opening.

In regards to claim 6, McGuigan discloses the axial extent of the unthreaded counterbore being structured to prevent the threads of the nut from engaging matching threads of the shank member when the shank member is inserted in the inlet opening at an entry angle greater than 5 degrees.

As to claim 7, McGuigan discloses neither of the peaks or valleys extending into the unthreaded counterbore.

Referring to claim 10, McGuigan discloses the peaks defining a lead in radius and the valleys including a planar surface.

As to claim 11, McGuigan discloses the peaks defining the lead in radius and the valleys including a bottom of a generally rectangle shape.

In regards to claim 12, McGuigan discloses the valleys defining a lead in radius and the peaks including raised bumps.

Regarding claim 13, McGuigan discloses the raised bumps having curved and smooth surfaces (the surface adjacent the counterbore) capable of preventing cross threading engagement of the shank member with the bumps.

As to claim 14, McGuigan discloses the unthreaded counterbore including an inner cylindrical surface that is smooth over an entire axial extent thereof from the inlet opening to the intersection between the threaded region and the unthreaded counterbore.

Art Unit: 3677

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over McGuigan (US 1208997) as applied to claim 5 above, and further in view of Rieschick (US 844750).

Referring to claim 8, McGuigan discloses the claimed nut except for one of the peaks or valleys extending into the unthreaded counterbore. Rieschick teaches a nut with valleys 7 that extend into the bore 2. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to extend the valleys of McGuigan's nut into the bore as disclosed in Rieschick to prevent rotation of the threaded shank member within the nut.

As to claim 9, McGuigan discloses the claimed nut except for the valleys including a cylindrical or conical surface. Rieschick teaches a nut with valleys 7 that can have either a cylindrical or conical surface (line 80). Applicant is also reminded that "a change in the shape of a prior art device is a design consideration within the skill of the art." In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). It would have been obvious at the time the invention was made to a person of ordinary skill in the art to form the valleys of McGuigan with a cylindrical or conical surface as disclosed in Rieschick for cooperation with yielding material such as wood (lines 95-98).

Art Unit: 3677

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited further to show the state of the art with respect to anti-cross threading nuts in general: U.S. Pat. No. 4790208 to Johnson and U.S. Pat. No. 2460721 to Thompson.

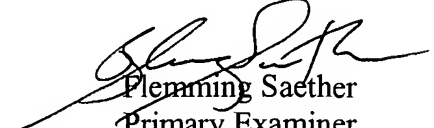
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jori R. Schiffman whose telephone number is 703-305-4805. The examiner can normally be reached on M-Th, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 703-306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jori R. Schiffman
Examiner
Art Unit 3677

JS


Flemming Saether
Primary Examiner